

REMARKS

This Amendment, submitted in response to the Office Action dated July 14, 2003, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-20 remain pending in the application. Claims 19-20 have been objected for failing to limit the base claims. Applicant cancels claims 19-20 from the application to expedite prosecution of the case.

Claims 1-5, 7-9, 12-13 and 19-20 have been rejected under the judicially created doctrine of obviousness type double patenting. Claims 1 and 18-19 have been rejected under 35 U.S.C. § 103 as being unpatentable over Umehara (JP 57-5044) in view of Yamamoto (U.S.P. 4,920,376). Claims 2-3, 12 and 20 have been rejected under 35 U.S.C. § 103 as being unpatentable over Umehara in view of Yamamoto and Uji-Ie (previously of record). Claim 6 has been rejected under 35 U.S.C. § 103 as being unpatentable over Umehara in view of Yamamoto and further in view of Yamada (previously of record). Claims 4 and 7-11 have been rejected under 35 U.S.C. § 103 as being unpatentable over Umemoto in view of Yamamoto and further in view of Kubo (previously of record). Claims 13-16 have been rejected under 35 U.S.C. § 103 as being unpatentable over Umehara in view of Yamamoto and Uji-Ie and further in view of Okino (previously of record). Claim 17 has been rejected under 35 U.S.C. § 103 as being unpatentable over Umehara in view of Yamamoto and further in view of Kagayama (U.S.P. 5,038,710). Applicant submits the following comments for responding to the prior art rejections.

With regard to the double patenting rejection of claims 1-5, 7-9, 12-13 and 19-20, comments as follows. The claims of the '893 patent do not teach fixing by visible light. To the extent that Umehara teaches fixing, the fixing is performed by UV light, to be discussed in more detail below.

With regard to the prior art rejections over the primary combination of Umehara and Yamamoto and various additional references, Applicant submits the following arguments.

Applicant's invention relates to a image production apparatus that minimizes the production of waste products. Detailed descriptions of the exemplary embodiment are set forth in the December 3, 2002 Amendment at page 5. Kubo is also described in the December 3 Amendment at page 5. Okino, Uji-Ie and Yamada are described in the April 29, 2003 Amendment at pages 3-5. Applicant refers the Examiner to these descriptions.

Turning to the newly cited art, to the extent understood, Umehara relates to a recording material including photo-oxidizing agents for color development and photoreduction for fixing. The process provides image formation in a dry process. The process uses a Co(III) ammine complex, a photoreducing agent, a hydrogen donor and a chelating agent as components of the fixing system. While the initial exposure to produce color in the recording material appears to be by way of incident visible light, it remains unclear how the fixing process is achieved. The second sequence includes exposure to visible light for recording followed by simultaneous lighting and heating. Therefore, the first sequence would appear to lack fixing by exposure to visible light because UV exposure is discussed. The second sequence would appear to lack a

sequential downstream process of visible light exposure, heating, and visible light fixing since the last two steps are combined.

Regardless of the teachings of Umehara alone, Applicant would submit that the combination of Umehara and Yamamoto is improper. Yamamoto relates to an image forming device using more conventional chemical techniques, requiring moisture control for exposure and development. Col. 4, lines 30-39. In addition, the developer section requires a chemical developer reacting with a dye precursor. Col. 5, lines 65-68. The Yamamoto process clearly does not relate to a dry process, unlike Umehara. Moreover, Yamamoto relates to developing sheet processing superposed onto a recording web having a latent image. The developing sheet and recording web are pressurized to develop the latent image and to transfer the resultant color image to the developing sheet. Unlike the present invention, Yamamoto generates significant waste materials. Since the references relate to fundamentally different types of processing, their combination is improper.

For similar reasons, the Examiner's motivation to combine features of Yamamoto with Umehara are also improper. The Examiner cites shielding from moisture as a reason to modify Umemura to include a casing. However, since Umehara relates to a dry process, the moisture problem is obviated even without a housing. Furthermore, the Examiner cites shielding from light as a reason to modify Umemura. However, it is noted that in the secondary reference, the light-based exposure unit is shown as a self-contained unit and thus the lighting problem is also obviated without a housing for the material. Therefore, Applicant would submit that all the rejections over the primary combination of Umehara and Yamamoto are improper, and claim 1 is patentable for at least these reasons.

Claims 2-11 and 17-18 are patentable based on their dependency on claim 1.

With further regard to claim 18, this claim describes a vertical arrangement for the exposure unit, developing unit and fixing unit. This arrangement is not taught by the cited combination.

Because the additional references of Uji-Ie, Yamada, Kubo, Okino and Kagayama do not make up for the deficiencies of the primary combination, the remaining claims are patentable for at least the reasons set forth above for claim 1. It is noted that independent claim 12 includes similar features as discussed above for claim 1.

Additionally, it is noted that Okino and Kubo each specifically relate to recording materials fixed by UV light. By contrast, independent claims 1 and 12 describe fixing by visible light. It would not be obvious to vary the disclosed compositions, which are sensitive to different wavelengths, to arrive at the claimed invention. Therefore, claims 4, 7-11 and 13-16 are patentable for this additional reason.

As a related matter, the combination of Okino and Uji-Ie may not be properly combined to reject claims 13-16. As previously set forth in the Amendment of April 29, 2003, the references relate to different recording medium that are responsive to different wavelength stimuli. The Examiner has not rebutted the arguments. Applicant would maintain that the rejections over the combination including Okino and Uji-Ie are improper, as summarized below.

In Okino, both analog and digital recording are contemplated, using visible and infrared wavelengths. Once recorded and developed, a UV fixing light is applied to a receiving sheet containing the image. Significantly, the wavelengths for the different forms of recording and the

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fixing are non-overlapping. This is due to the wavelength sensitivity of colorants in the image forming media. By contrast Uji-Ie has an opposite light sensitivity for purposes of recording and fixing. UV light is used for recording and visible light is used for fixing. Uji-Ie further emphasizes the wavelength sensitivity for recording purposes. See col. 1, lines 42-51. Therefore, one skilled in the art would not combine the teachings of Okino and Uji-Ie.

The contrast aspect of the image results from the composition of the medium itself, not from the fact that a visible light fixes the image. See Uji-Ie, col. 2, lines 24-37. Significantly, the composition of the photosensitive medium in Uji-Ie responds to recording at the UV wavelengths and is fixed at the visible wavelength due to certain photooxidants and photoreductants in the materials. Therefore, claims 13-16 are patentable for this additional reason.

Claim 21 is added to describe features of the invention more particularly.

In view of the above, Applicant submits that claims 1-18 and 21 are in condition for allowance. Therefore it is respectfully requested that the subject application be passed to issue at the earliest possible time. The Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

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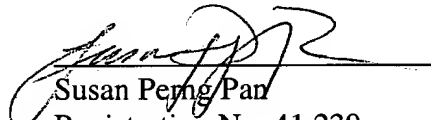
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER


Susan Perng Pan
Registration No. 41,239

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